

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawaii**

180-Day Exp. Date: January 4, 2009
CDUA MA-3465

November 14, 2008

**Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii**

REGARDING: Rockfall Mitigation

APPLICANT: State of Hawai'i, Department of Transportation, Highways Division, 869
Punchbowl St., Honolulu, HI 96813

AGENT: Diane Y. Kodama, M&E Pacific Inc. 841 Bishop Street, Suite 1900
Honolulu, HI 96813

LANDOWNER: State of Hawai'i, unencumbered

LOCATION: Milepost 19.18 to 19.52 on Route 360 (Hana Highway), in the vicinity
of the 'ili of Kupau and the ahupua'a of Ke'anae and Wailua,
Ko'olau District, Maui

TMK: (2) 1-1-08:01 and 05

AREA OF USE: < 0.612 acres

SUBZONE: Resource

DESCRIPTION OF AREA AND CURRENT USE

The project area lies on either side of the Hana Highway between Milepost 19.18 and Milepost 19.52. It was one of 35 hazardous stretches along the highway identified in the Rockfall Mitigation Plan developed for the State Department of Transportation. The site lies above the town of Wailua, overlooking Wailua Bay. **Exhibits 1 and 2** show the project's location.

The area, which is on the lower windward slope of Haleakalā, is steeply sloped and heavily vegetated. Flora is a mix of native and invasive wetland species, including 'ōhi'a,

false staghorn, treefern, foxtail, lantana, kukui, and pūkiawe. There are no known critical habitats in the project area.

There is an unobstructed view plane to both the mountain and the ocean from the project site. There are no other developments at the site beyond small bridges within several hundred feet on either side. There are no residential areas in the project area. A historical survey showed four heiau within a 0.5 mile radius. None are in the construction area. **Exhibit 3** is a photo from Milepost 19.18.

PROPOSED USE

The project is part of the larger Hana Highway Rockfall Mitigation Plan that was completed for the State Department of Transportation in May 2000. Thirty-five project sites were identified in the Plan; this application focuses on mitigation strategies along the stretch between Milepost 19.18 and 19.52.

The highway at the project location is approximately 18' in width. There are no shoulders on the makai side of the roadway, and minimal shoulders on the mauka side. There is a concrete-rubble masonry (CRM) wall adjacent to the makai side. There are overhanging trees and weathered basalt on the mauka side, and what appears to be landslide debris along the makai edge.

The original proposal included realigning the roadway away from the mauka slope, and cutting into the slope to create rock catchment zones. At MP 19.18 the road was to be cantilevered 9 feet out over the downward slope. This portion of the project has since been cancelled.

A concrete barrier and shield fencing will be placed mauka. The barrier will be placed on the sloping hillside above the existing vertical cut. It will be anchored using grouted soil/rock anchor foundations. Cable guides will hold a ten-foot wire mesh and ring net barrier in place.

Exhibits 4, 5, and 6 show the technical details of the barrier.

The contractor will follow best-management practices.

The applicant proposes to time construction to coincide with County of Maui bridge replacement projects so as to minimize road closures.

SUMMARY OF COMMENTS

The application was referred to the following agencies for their review and comment - The Department of Land and Natural Resources Divisions of Conservation & Resource Enforcement, Boating and Ocean Recreation, Forestry & Wildlife, Oahu District Land, Engineering, and Historic Preservation; the Department of Health; the Office of Hawaiian

Affairs; the Office of Environmental Quality Control; US Fish and Wildlife Service; and Maui County Planning.

In addition, this CDUA was sent to the Hana Public Library for public review.

Comments were received by the following and summarized by Staff as follows:

DEPARTMENT OF LAND AND NATURAL RESOURCES

• **Division of Conservation and Resource Management**

Review seems straight forward, and DOCARE does not foresee any problems.

• **Division of Forestry and Wildlife**

No Comments

• **Land Division**

No comments

• **Division of Conservation and Resource Enforcement**

Improvements will enhance safety.

• **Engineering Division**

The Division confirms that the project is located in Flood Insurance Rate Map Zone C. The Flood Insurance Program has no special regulations in Zone C.

• **Historic Preservation (HPD)**

HPD did not comment on this CDUA, but had agreed earlier with the conclusions of the Environmental Assessment that no historical sites would be affected by the project.

COUNTY OF MAUI PLANNING

The project appears to lie outside the Special Management Area. Planning notes that the Highway is on both the State and Federal Registers of Historic Places

DEPARTMENT OF HEALTH (DOH) ENVIRONMENTAL HEALTH DIVISION

No comments. DOH recommends that the applicant review the standard comments found on their website and adhere to any comments applicable to this project.

ANALYSIS

As the project area lies on State Land that appears to be unencumbered, OCCL consulted with DLNR's Land Division prior to accepting the application for processing. Land Division notified our office that they had no objections on July 2, 2008. The DLNR Chair, representing the State as landowner, then signed the application so that it could be

accepted for processing. Her decision as landowner to sign the application does not constitute an endorsement or approval.

OCCL notified the applicant on July 11, 2008 that:

1. The proposed use was an identified land use in the Resource subzone of the Conservation District, pursuant to Hawai'i Administrative Rules (HAR) §13-5-22, P-6, PUBLIC PURPOSE USES, (D-1) *Land uses undertaken by the State of Hawai'i or the counties to fulfill a mandated government function, activity, or service for public benefit and in accordance with public policy and the purpose of the conservation district. Such land uses many include transportation services, water systems, communications systems and recreation facilities.* The final authority to grant or deny the permit rests with the Board of Land and Natural Resources (BLNR).
2. Pursuant to HAR §13-5-40, a Public Hearing was not required;
3. Pursuant to HAR §13-5-31 *Permit applications*, the permit required that an environmental assessment be carried out. OCCL reviewed the August 2003 *Final Environmental Assessment for the Hana Highway Rockfall Mitigation, Huelo to Hana* prepared by M&E Pacific, Inc for the State Department of Transportation (DOT).

The DOT was the accepting authority for the document, and issued a Finding of No Significant Impact (FONSI) on February 23, 2003.

Notice of CDUA MA-3465 was published in the July 23, 2008 issue of the *Environmental Notice*.

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

The project is considered an identified land use in the subject area of the Conservation District; as such, it is subject to the regulatory process established in Chapter 183C, HRS and detailed further in Chapter 13-5, HAR. This process provides for the application of appropriate management tools to protect the

relevant resources, including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

Staff believes the proposal is consistent with the purpose of the Conservation District as the proposal is within a previously disturbed area.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas. The proposed use is an identified land use in the Resource subzone of the Conservation District, pursuant to HAR §13-5-22, P-6 PUBLIC PURPOSE USES.

Staff believes the rockfall barrier will have not have a negative impact on the sustained use of the area's resources.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled Coastal Zone Management, where applicable.*

The proposed project is not near the shoreline.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes the proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community or region. The proposed land use does not change the existing use of the area.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The proposed use is similar to other rockfall mitigation projects along the Hana Highway.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The project area will not be visible from any residential or public recreation areas. It will be visible from the road. It will impact the mauka view plane, but not interfere with makai views.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

There will be no subdivision of land for this proposed project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Staff believes the proposed project will not be materially detrimental to the public health, safety and welfare.

DISCUSSION

The proposed roadwork is part of an overall rockfall mitigation strategy for the Hana Highway, and this specific project location is one of 35 priority stretches identified in a management report that M&E Pacific, Inc for the State Department of Transportation.

The original CDUA called for a rockfall impact barrier to be placed on the mauka side of the road, for the road to be cantilevered out over the downward slope, and for the entire travel way to be shifted makai. Since then the DOT has significantly scaled the project back, and the current plan eliminates the cantilevers entirely and focuses instead on a mauka rockfall impact barrier.

The proposed shield will run between Mileposts 19.18 and 19.52 on Route 360 (Hana Highway), in the Ko'olau District of Maui

As the project area lies on unencumbered State Land. OCCL consulted with DLNR's Land Division prior to accepting the application for processing. Land Division notified our office that they had no objections on July 2, 2008. The DLNR Chair, representing the State as landowner, then signed the application so that it could be accepted for processing. Her decision as landowner to sign the application did not constitute an endorsement or approval.

The environmental assessment for this, along with other mitigation projects in the area, was given a Finding of No Significant Impact (FONSI) on February 23, 2003 by the State Department of Transportation.

While the original proposal involved a significant amount of construction and land disturbance, the revised proposal will have a relatively minor impact on the area's resources. It will improve the safety of commuters along the Hana Highway without increasing capacity, and without significantly increasing the Highway's environmental footprint.

RECOMMENDATION:

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE this Conservation District Use Application (CDUA) MA-3465 to construct a rockfall impact barrier between Milepost 19.18 and 19.52 along the Hana Highway, Koʻolau District, Maui, TMK (2) 1-1-08:01 and 05 subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, regulations, and conditions of the Federal, State, and County governments, and applicable parts of the Hawaii Administrative Rules, Chapter 13-5;
2. The applicant shall comply with all applicable Department of Health administrative rules;
3. Any work done or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the Chairperson, and, unless otherwise authorized, shall be completed within three (3) years of the approval. The applicant shall notify the Department in writing when construction activity is initiated and when it is completed;
4. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction and grading plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) of the copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;
5. All mitigation measures set forth in the application materials are incorporated as conditions of the permit;
6. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;
7. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;
8. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take the measures to minimize or eliminate the interference, nuisance, harm, or hazard;

9. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
10. Other terms and conditions as may be prescribed by the Chairperson; and
11. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

Respectfully submitted,

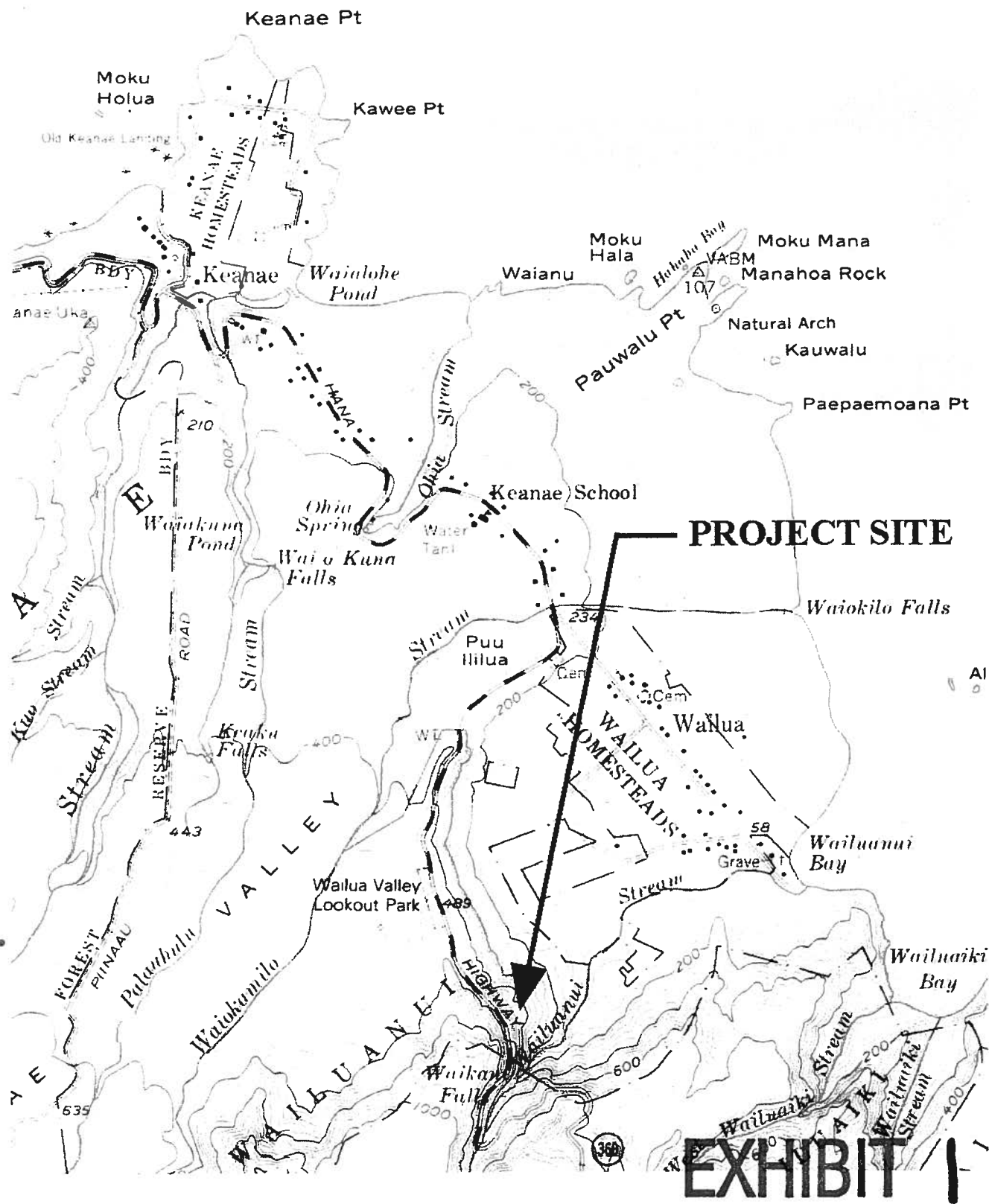


Michael Cain, Staff Planner
Office of Conservation and Coastal Lands

Approved for submittal:



Laura H. Thielen, Chairperson
Board of Land and Natural Resources



SOURCE: USGS

M&E
Pacific, Inc.

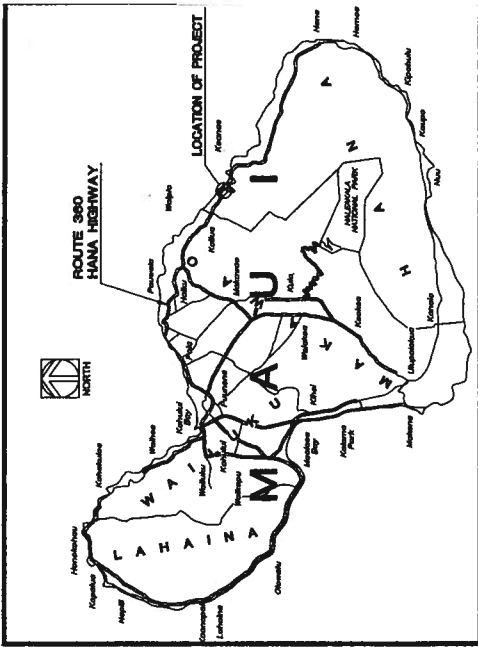
Bishop Square
Pauahi Tower, Suite 500
1001 Bishop Street
Honolulu, Hawaii 96813

HANA HIGHWAY ROCKFALL MITIGATION

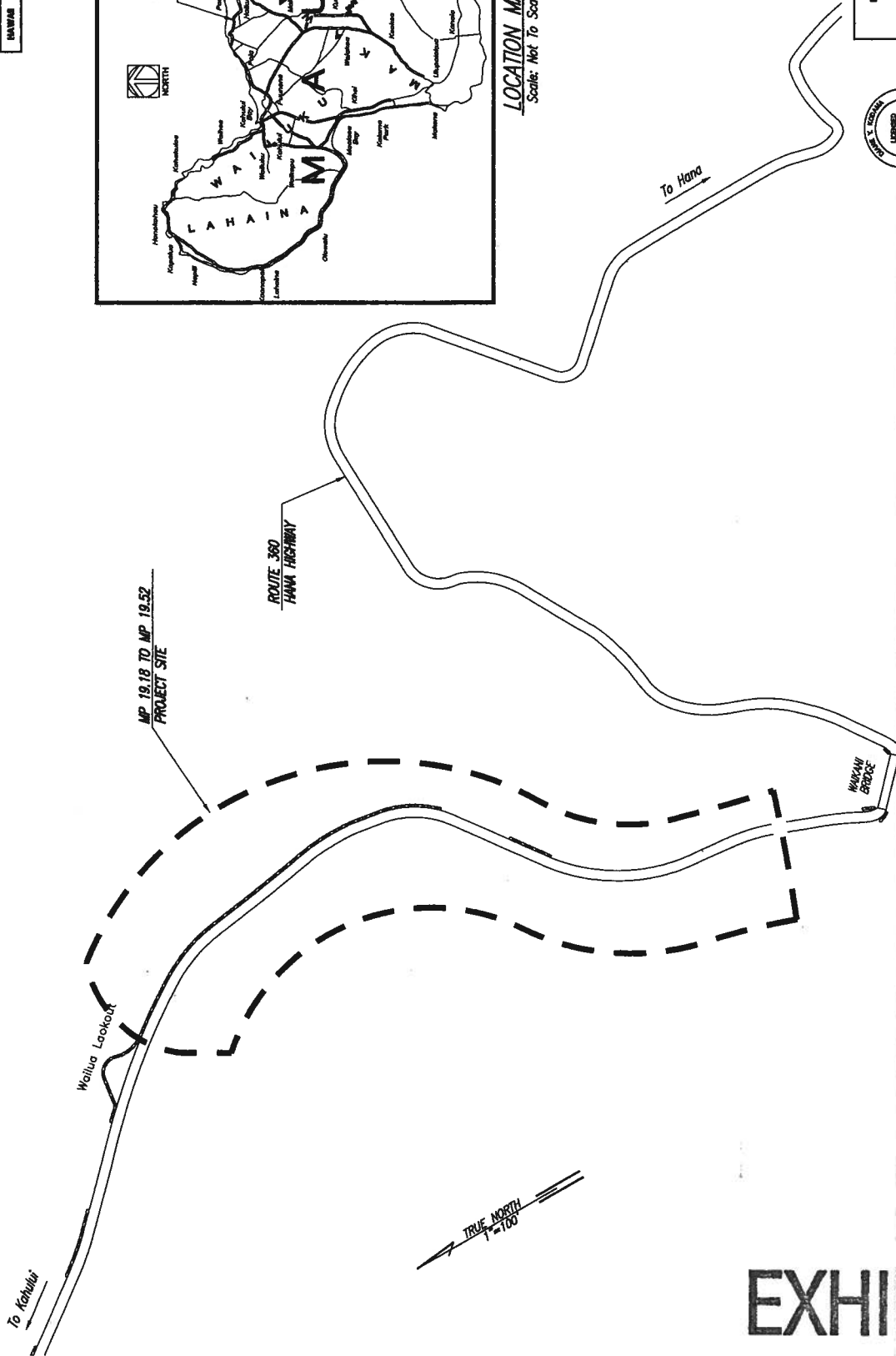
PROJECT NO. 360-AB-02-98
STATE DOT - HIGHWAYS DIVISION

FIGURE 8
MP 19.18 USGS QUAD
August 2003

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
HAWAII	HAWE.	380AB-02-98	5	16



LOCATION MAP
Scale: Not To Scale



GENERAL PLAN
Scale: 1"=100'



THIS PROJECT WAS PREPARED BY ME
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL PLAN

ROUTE 360 HANA HIGHWAY
ROADWAY IMPROVEMENT PHASE 2
MILE POST 19.18 TO 19.52
Project No. 380AB-02-98
Scale: 1"=100'

Date: June 2008
SHEET No. 1 OF 1 SHEETS

NAME	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
APPROVED BY	

EXHIBIT 2



EXHIBIT 3

Bishop Square
Pauahi Tower, Suite 500
1001 Bishop Street
Honolulu, Hawaii 96813

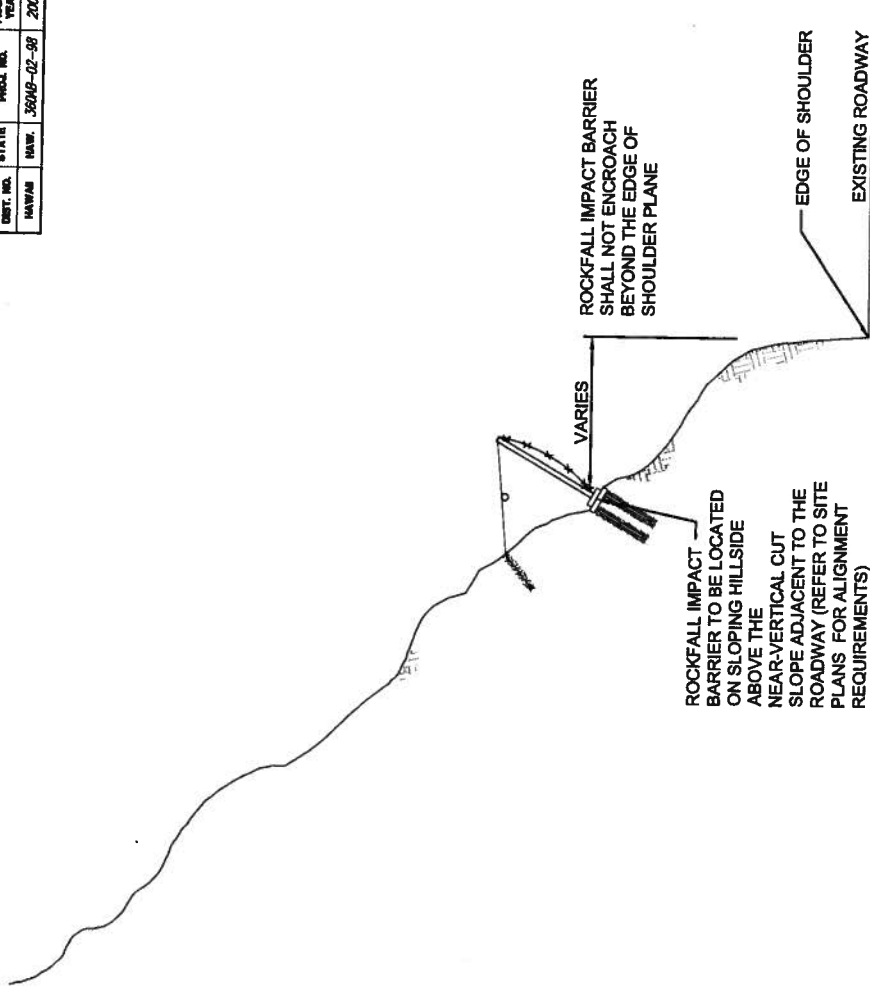
M&E
Pacific, Inc.

**HANA HIGHWAY
ROCKFALL MITIGATION**

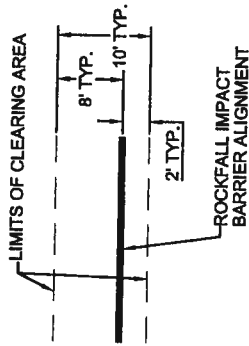
PROJECT NO. 380-AB-02-98
STATE DOT - HIGHWAYS DIVISION

**FIGURE 3
VIEW OF MP 19.18 PROJECT SITE
August 2003**

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HA-0001	HA-0001	38010-02-98	2008	14	16



ROCKFALL IMPACT BARRIER TYPICAL SECTION
NOT TO SCALE



TYPICAL CLEARING PLAN
NOT TO SCALE

EXHIBIT



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Teddy T. Kunk
REGISTERED PROFESSIONAL ENGINEER
STATE OF INDIANA, No. 10000

STATE OF INDIANA
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

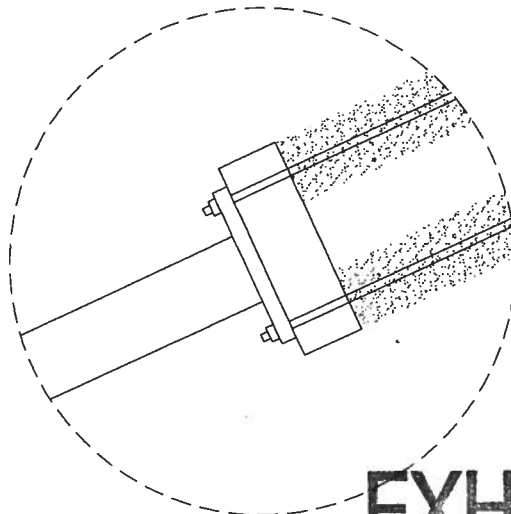
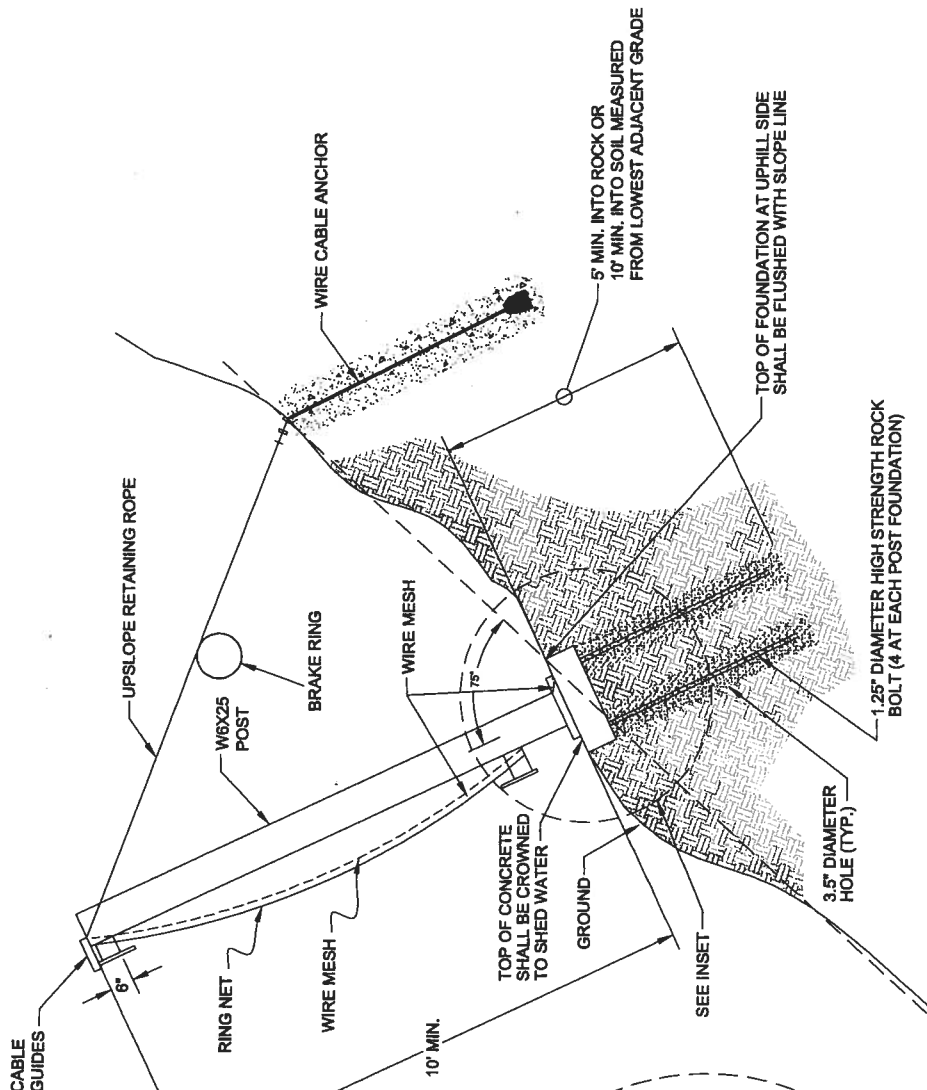
ROUTE 380 HALL HIGHWAY
ROCKFALL MITIGATION PHASE 2
MILE POST 18.18 TO 18.52
Project No. 38010-02-98
Date: June 2008

Scale: Not to Scale

SHEET NO. 5 OF 7 SHEETS

14

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	300AB-02-98	2008	15



ROUTED SOIL/ROCK ANCHOR FOUNDATION FOR ROCKFALL IMPACT BARRIER

NOT TO SCALE



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Teddy T. Kunk
Professional Engineer
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FOUNDATION DETAILS

ROUTE 360 HAWAII HIGHWAY
ROCKFALL MITIGATION PHASE 2
MILE POST 18.18 TO 19.62
Project No. 300AB-02-98
Scale: Not to Scale Date: June 2008

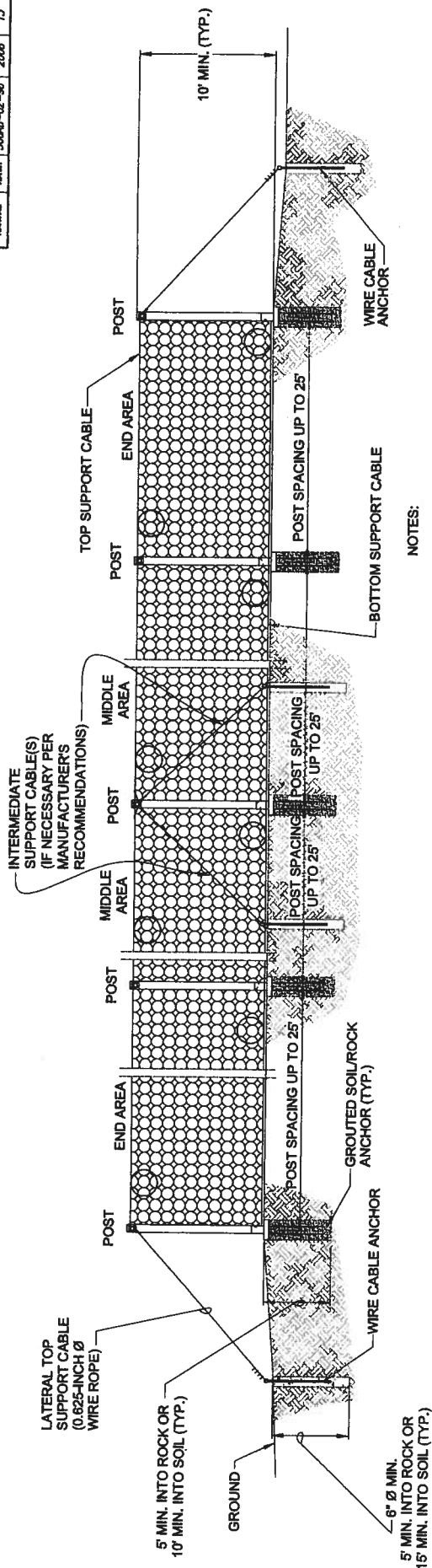
SHEET NO. 6 OF 7 SHEETS

REVISION	DATE	BY	CHKD

EXHIBIT

5

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	30048-02-98	2008	13

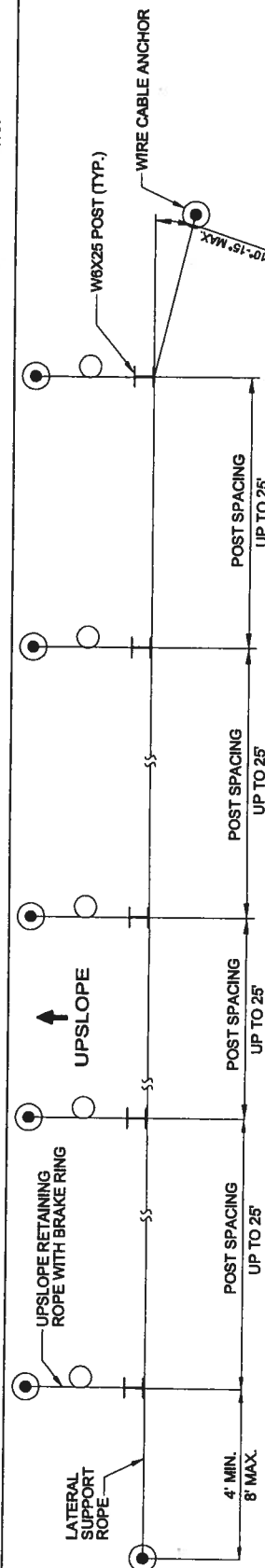


NOTES:

1. ROCKFALL IMPACT BARRIER ELEMENTS INCLUDING ALL HARDWARE FOR BARRIER SHALL BE POWDER COATED BLACK.
2. ROCKFALL IMPACT BARRIER SYSTEM SHALL HAVE A MINIMUM RATED ENERGY ABSORPTION CAPACITY OF 74 FOOT-TONS WITH AN ADEQUATE FACTOR OF SAFETY.
3. REFER TO SHEET 15 FOR FOUNDATION DETAILS.
4. VERTICAL SAG OF RING NET SHALL BE MAX. 3% OF POST SPACING.

TYPICAL LAYOUT OF POSTS AND WIRE CABLE ANCHOR

NOT TO SCALE



TYPICAL LAYOUT OF ANCHOR POINTS

NOT TO SCALE



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T. J. Kunk
Professional Engineer
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROCKFALL IMPACT BARRIER

ROUTE 380 HAWAII HIGHWAY
ROCKFALL MITIGATION PHASE 2
MILE POST 19.18 TO 19.53
Project No. 380AB-02-98
Scale: Not to Scale Date: June 2008

DATE	BY	REVISION

EXHIBIT

6